

USEPA VI Guidance

Expected Direction of USEPA Guidance

- Increased reliance on multiple lines of evidence assessments to address spatial and temporal variability
- More cautious screening evaluation approaches (e.g., more strict default attenuation factors)
- Less reliance on vapor intrusion modeling
- Greater use of indoor air sampling
- Provide new techniques to evaluate indoor air background sources
- Provide guidance for petroleum hydrocarbons (PVI)
- Consider radon as tracer



EPA Guidance Updates

(Final Out in Nov 2012)

- EPA (OSWER & Superfund) - Anticipated
 - Preference for sub-slab & indoor air
 - 7 to 30 day indoor air sampling period
 - Fixed Att factor of 0.1 for SG & 0.001 for GW
 - Sub-slab Att factor dropping to 0.01?
 - Modeling no longer an exit

No Public Comment on Draft!!

EPA Guidance Updates

(Final Out in Nov 2012)

- EPA-OUST: Guidance for HCs
 - Exclusion criteria? Yes, but being debated
 - Testing/Adoption of Biovapor model? In theory
 - Frequently Asked Questions - done
 - Summary of State Guidances – done
 - Will be a stand alone document

No Public Comment on Draft!!

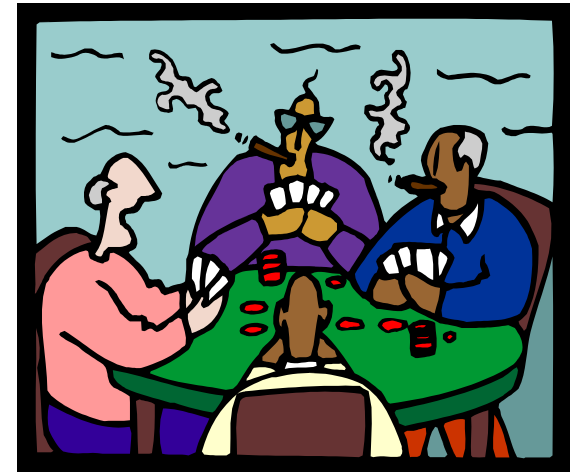
Required Vertical Separation Distance Between Contamination And Building Foundation, Basement, Or Slab.

Media	Benzene	TPH	Vertical Separation Distance (feet)*
Soil (mg/kg)	≤10	≤250	6
	>10 (LNAPL)	>250 (LNAPL)	15**
Groundwater (ug/L)	≤ 5,000	≤30,000	6
	>5,000 (LNAPL)	>30,000 (LNAPL)	15**
<p>The thresholds for LNAPL indicated in this table are indirect evidence of the presence of LNAPL. These thresholds may vary depending on site-specific conditions (e.g., soil type, LNAPL source). Investigators may have different experiences with LNAPL indicators and may use them as appropriate. Direct indicators of LNAPL also apply; these include measurable accumulations of free product, oily sheens, and saturated bulk soil samples.</p> <p>*Vertical separation distance represents the thickness of clean (TPH ≤ 100 mg/kg), biologically active soil between the source of PHC vapors (LNAPL, residual LNAPL, or dissolved PHCs) and the lowest (deepest) point of a receptor (building foundation, basement, or slab).</p> <p>** EPA recommends that sub-slab monitoring be used to evaluate the risk of vapor intrusion whenever LNAPL is present in any sample and the vertical separation distance is less than 15 feet. When LNAPL is present between 15 and 30 feet, exterior soil vapor samples and bulk soil samples are recommended to be collected at the building perimeter.</p>			

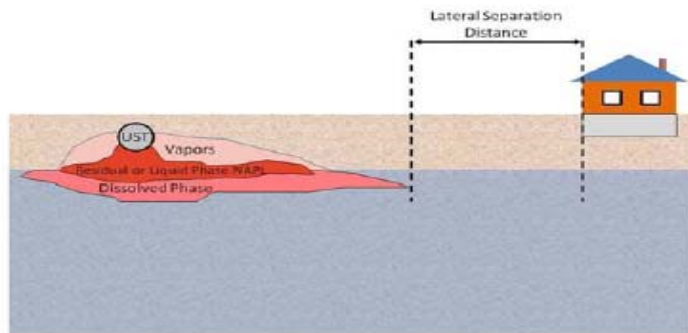
Need to Always Read the Fine Print



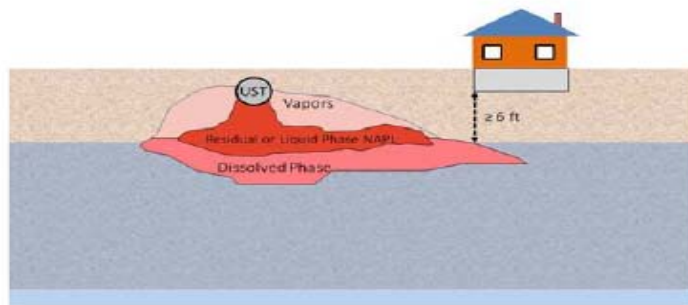
"Those of us on the EPA PVI work group feel that EPA has deceived and betrayed the science," the regulator says, referring to the change in separation distances from a March 15 draft to the June 14 draft. The change comes by way of an asterisk in a table in the June 14 draft, which says 15 feet of uncontaminated soil is required to biodegrade petroleum hydrocarbons. Language following the asterisk suggests sampling if LNAPL sources are between 15 and 30 feet of a building, which increases the standard by orders of magnitude, an industry source says. Relevant documents are available on InsideEPA.com. See page 2 for details. (Doc ID: 2408771)



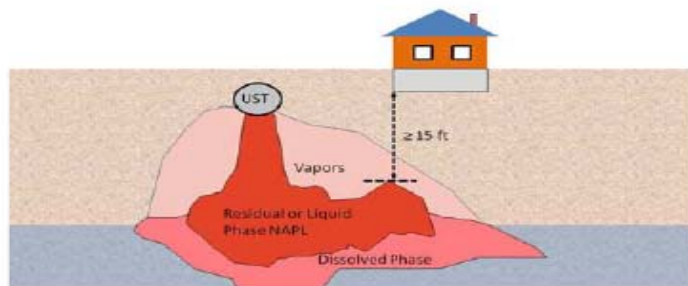
**** When LNAPL is present between 15-30 feet, the presence of certain site-specific conditions may warrant collection of exterior soil vapor samples. Such conditions may include the presence of: exceptionally large and thick LNAPL plumes, extensive surface paving that is likely limit oxygen infiltration, exceptionally dry soils, or VOCs not typically found in petroleum fuels. Harley Hopkins**



(a) Lateral separation distance.

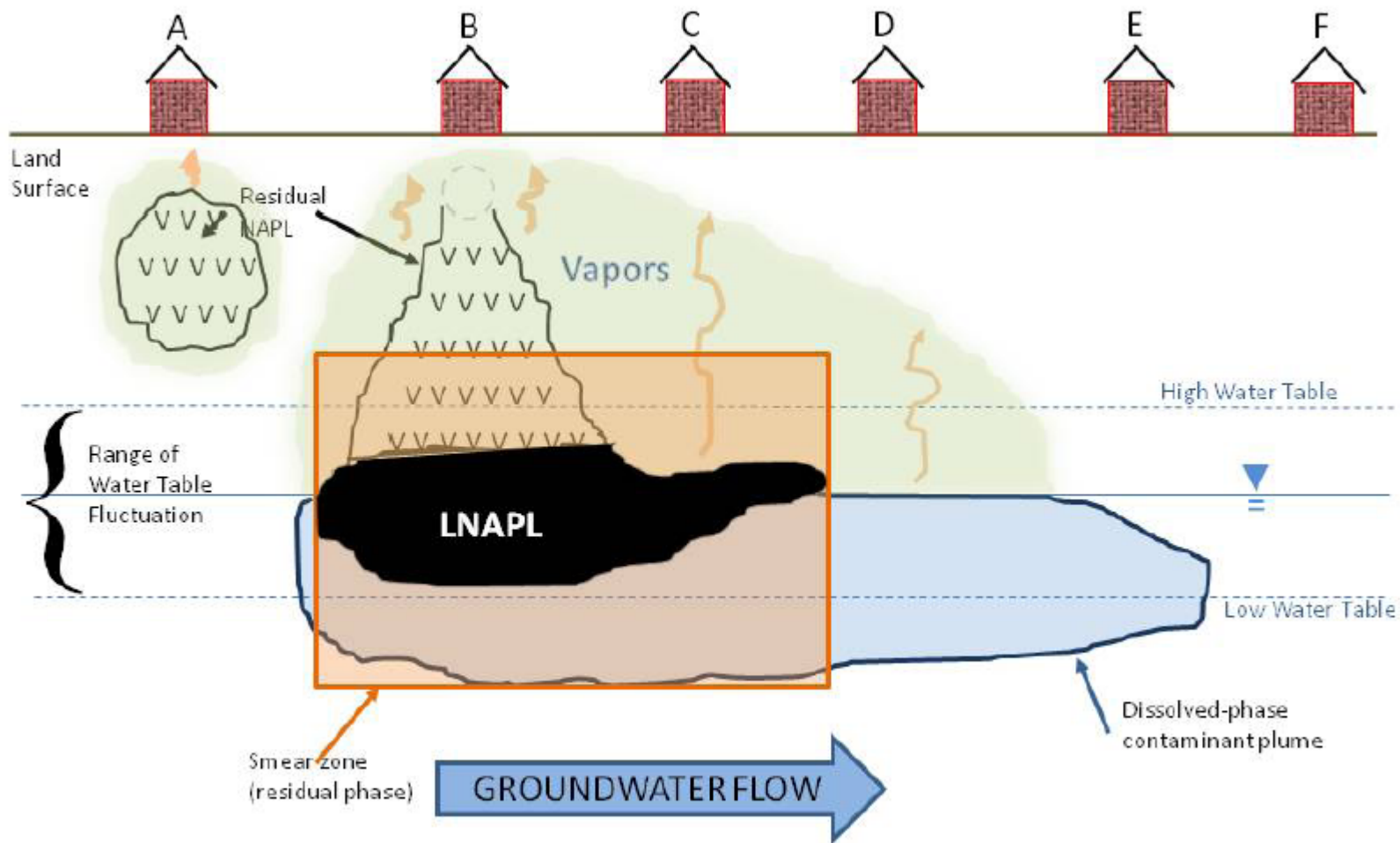


(b) Vertical separation distance for dissolved-phase source of PHCs.



(c) Vertical separation distance for LNAPL (residual or liquid phase) source of PHCs.

Lateral And Vertical Separation Distances Between Source Of PHC Contaminants And Hypothetical Receptor



Typical Scenarios Of Potential PVI Sources And Potential Receptors

ITRC PVI GUIDANCE UPDATE:

Outline of Chapters

1. Introduction

2. Types of PVI Sites

3. Conceptual Site Model

4. Basic Investigative Framework for PVI Sites

5. Site Screening and Prioritization

6. Investigative Toolbox

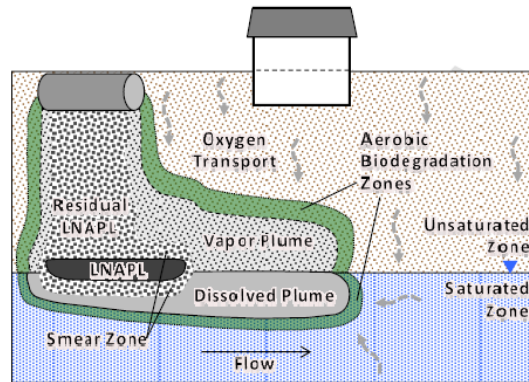


Figure 1. Typical petroleum hydrocarbon transport scenario

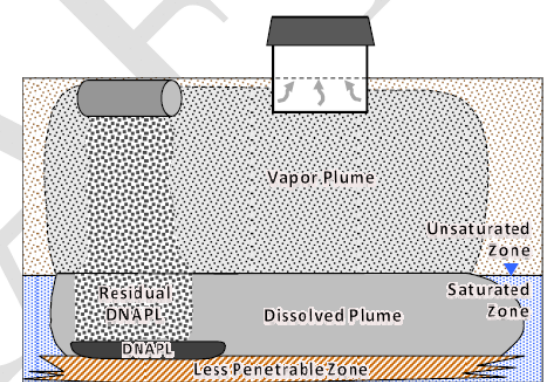


Figure 2. Typical chlorinated solvent transport scenario



Chapter 2: Types of Sites

- UST Sites
- Refineries
- Bulk Plants
- Home Heating Oil
- Pipelines
- Manufactured gas plants
- Coal tar & creosote sites
- Exploration & Production sites

